

Amendments to the Claims

1. (Currently amended): An action group arbitration system, comprising:

a searchable memory block having a first type memory portion and a second type memory portion; ~~wherein the searchable memory block is configured with a plurality of entries;~~

wherein the first type memory portion includes static random access memory (SRAM);

wherein the second type memory portion includes ternary content addressable memory (TCAM);

wherein the first and second type memory portions include a plurality of entries;
the plurality of entries configured to provide a search result in response to a search key;

a first table having a plurality of stored values for each of the plurality of entries;
wherein each of the plurality of stored values is an action group that corresponds with one of the plurality of entries, the first table configured to receive the search result and to provide a selection signal in response to the search result, the selection signal corresponding with at least one of the plurality of entries, wherein each of the plurality of entries includes a first state that includes a hit or match indication and an associated stored value having an enable state; and

a second table configured to receive the selection signal and to provide an action indication in response to the selection signal;

wherein the second table includes an action table having a plurality of portions;
wherein each of the plurality of portions is configured to be accessed by a
corresponding one of a plurality of the selection signals;

wherein each of the plurality of portions corresponds to an action group;
and wherein the first type memory portion and the second type memory portion
operate in parallel to provide search results.

2-10. (Canceled):

11. (Currently amended): The action group arbitration system of claim 1, wherein:
the action group includes a user programmable register for enabling one or more categories of actions.
12. (original): The action group arbitration system of claim 1, wherein:
the selection signal is generated in response to a precedence determination.
13. (original): The action group arbitration system of claim 1, wherein:
the action indication includes an action to be performed on a packet.
14. (Currently amended): A method of arbitrating actions, comprising the steps of:
performing a search operation on a searchable memory block;
wherein the performing the search operation includes searching a memory block having a first type memory portion and a second type memory portion;
wherein the first type memory portion includes static random access memory (SRAM);
wherein the second type memory portion includes ternary content addressable memory (TCAM);
accessing a stored action group number in a first table, the stored action group number corresponding to each hit resulting from the search operation, the stored action group number including a group subfield and a precedence number;
selecting an entry from an action group number table;
checking if the group subfields in the stored action group number are enabled for any hits from the search operation;
allowing the hit for a group if the group subfield is enabled;
suppressing the hit for the group if the group subfield is not enabled;
determining a precedence based on the precedence number to provide a search result for the group;
wherein the determining the precedence includes selecting a highest priority hit from among a remaining group of hits; and

selecting an action based on the search result from an action table portion corresponding to the group;

wherein the action table includes a portion corresponding to each of the groups; and wherein the selecting the action from the action table includes accessing the portion corresponding to the group; and

wherein the first type memory portion and the second type memory portion operate in parallel to provide search results.

15-22. (Canceled):

23. (New): An action group arbitration system, comprising:

a searchable memory block having a first type memory portion and a second type memory portion;

wherein the first type memory portion includes static random access memory (SRAM);

wherein the second type memory portion includes ternary content addressable memory (TCAM);

wherein the first and second type memory portions include a plurality of entries; the plurality of entries configured to provide a search result in response to a search key;

a first table having a plurality of stored values for each of the plurality of entries;

wherein each of the plurality of stored values is an action group that corresponds with one of the plurality of entries, the first table configured to receive the search result and to provide a selection signal in response to the search result, the selection signal corresponding with at least one of the plurality of entries, wherein each of the plurality of entries includes a first state that includes a hit or match indication and an associated stored value having an enable state; and

a second table configured to receive the selection signal and to provide an action indication in response to the selection signal;

wherein the second table includes an action table having a plurality of portions;

wherein each of the plurality of portions is configured to be accessed by a corresponding one of a plurality of the selection signals;
wherein each of the plurality of portions corresponds to an action group; and
wherein the action group includes a user programmable register for enabling one or more categories of actions.

24. (New): The action group arbitration system of claim 23, wherein:
the selection signal is generated in response to a precedence determination.
25. (New): The action group arbitration system of claim 23, wherein:
the action indication includes an action to be performed on a packet.
26. (New). The action group arbitration system of claim 23, wherein: the first type memory portion and the second type memory portion operate in parallel to provide search results.
27. (New) The method of claim 15, wherein:
the action includes an action to be performed on a packet.